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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/271,249	03/17/1999	TAKASHI SHINZAKI	614.1948	3857

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EXAMINER

GURSHMAN, GRIGORY

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/271,249	<b>Applicant(s)</b> SHINZAKI ET AL.	
	<b>Examiner</b> Grigory Gurshman	<b>Art Unit</b> 2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's amendment of claims 27, 28, 29 and 30 reflects "comparison signal for use in authentication". These claims are addressed in the rejections herein.

2. Applicant's arguments with respect to claims 1-33 have been considered but are not persuasive due to the following reasons:

3. Applicant argues that grouping of the claims remains inappropriate. Applicant argues for example that terms "comparing" and "verifying" are not the same. Applicant, however, has not explained the difference between the functions described by these terms and has not shown how the alleged differences are reflected in the claims.

Examiner states that broad but reasonable interpretation of the claims has been applied and claims have been grouped according to their scope and subject matter. Therefore grounds of rejection based on grouping of the claims are deemed valid. Detailed explanation of reasons for grouping of the claims is provided herein as follows:

3.1. Applicant uses the listing of the independent claims in accordance with respective functions as they are recited in the independent claims. The functions are marked as following:

M = measuring

C = converting

E = extracting

R = registering

V = verifying

V' = verifying (no extraction is involved)

CMP = comparing

3.2 Examiner states that this definition of functions recited in the independent claims is not accurate for the following reasons:

3.3 Referring to the independent claims 1, 19, 27, the function of verifying the biometric information with respect to a previously obtained biometric sample of an individual is performed by comparing the currently obtained biometric information with the one previously obtained and stored as recited in the independent claims 29-30. Therefore comparing and verification is the same function. Using the Applicant's table the grouping of the claims will look as following:

	<u>Functions</u>
group I : Claims 1,19 and 27	MCEV
group IV: Claims 29 and 30	MCE CMP

As explained herein V=CMF, therefore the combination of functions for independent claims 1, 19, 27 and 29-30 equals MCEV. Having the same combination of functions recited, the instant claims are rejected by a combination of the same references, as shown in the rejections herein.

3.4 Referring to claims 1, 19, 27, Applicant points out that the instant claims recite measuring the biometric information, converting the biometric information, extracting the feature information and verifying against the previously extracted converted feature.

Applicant also points out that the independent claims 9, 22 and 28 recite measuring the biometric information, extracting the feature information, converting the extracted feature biometric information and verifying it against converted extracted feature previously obtained.

Examiner points out that all of the functional steps performed are used only for accomplishing one thing – verification of the biometric information and thereby authenticating an individual. Verification is performed by comparing converted extracted feature or extracted converted feature with a previously obtained sample (extracted and converted). Therefore the process of verification recited in all of the independent claims 1, 19, 27 and 9, 22, 28 is the same and produces the same result regardless of the order of steps performed prior to verification. Therefore the prior art showing of all features MCE applies as well with claims reciting features MEC.

3.5 Referring to the independent claims 17, 25 and 31, Applicant states that the function steps recited are MCRV'. Examiner fully agrees with this interpretation of the functions recited in the instant claims and points out that these claims are rejected as a separate group as shown in rejections herein. However, with regard to the independent claims 18 and 26, examiner points out that the scope of these claims is broader than that of the claims 17, 25 and 31, since they do not recite the type of conversion used. Therefore claims 18 and 26 are not of similar scope to claims 17, 25 and 31. Applicant states that the set of function steps recited in claims 18 and 26 is MCRV'. Examiner agrees, but points out that verification is performed by comparison of a biometric sample information in the corresponding form previously obtained and stored. For the

purpose of comparing the two pieces of biometric information it is irrelevant whether these pieces are extracted converted portions of biometric information or converted biometric samples. From the technical point of view comparison is done by comparing certain bit values. Therefore the function step  $V' = V$  and consequently, claims 18 and 26 reciting steps MCV' can be grouped with claims 1, 19 and 27 reciting steps MCV. Registering previously obtained information recited in claims 18 and 26 is the same as storing previously obtained biometric sample as recited in claims 1, 19 and 27.

3.6 In view of the reason presented herein, examiner states that claims have been grouped according to their scope and subject matter

4. Referring to the independent claims 1, 19, 27 and 29, Applicant argues that Examiner uses distortion of the teachings of Strait in an effort to justify a combination with Kanevsky. Examiner respectfully disagrees with this assertion of interpretations of teachings of Strait. Referring to the instant claims, Strait discloses a system for normalizing biometric variations to authenticate users from a public database (see abstract). Strait teaches recording (i.e. extracting) the original biometric information and convolving (i.e. converting) the biometric measurements (i.e. extracted feature) – see column 53, lines 50-55. Strait teaches verifying the converted biometric information by comparing the error correcting codewords produced from the convolved biometric measurements (i.e. converted extracted feature biometric information) –see column 2, lines 30-50 and Fig.2, blocks from 54 to 92. Examiner maintains that one of ordinary skill in the art would have been motivated to verify the extracted feature converted biometric information by comparing it against the extracted feature converted biometric

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information previously obtained as taught in Strait for securing a cryptographic system based on biometric measurements (see Strait, column 2, lines 60-65). Examiner points out that the motivation to combine the teachings of Kanevsky and Strait is explicitly provided in Strait (column 2, lines 60-65).

5. Referring to Applicant's argument as for meanings of the terms, Examiner points out that the terms in question are well known in the art and equating, for example, the term "convolving the biometric measurements" with the term "converting" is appropriate using the broad interpretation of the claim language.

6. Referring to the independent claims 9, 22, 28 and 30, Applicant argues that Kanevsky fails to teach verifying the converted and extracted feature biometric information by comparing it against the converted and extracted feature biometric information previously obtained. Examiner agrees and points out that this very fact was explicitly stated in the rejection. However, as pointed out herein Strait teaches these features. Combination of Kanevsky and Strait renders claims 9, 22, 28 and 30 obvious. For the reasons stated herein, the rejection of claims 1, 19, 27, 29 and 9, 22, 28 and 30 is maintained.

7. Referring to the instant claims, Applicant argues the teachings of Strait, much the same way is done in reference to other claims. Examiner points out that while Priddy does not explicitly teach verifying the extracted feature converted biometric information by comparing it against the extracted feature converted biometric information previously obtained. This feature is taught by Strait. Strait teaches verifying the converted biometric information by comparing the error correcting codewords produced from the

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convolved biometric measurements (i.e. converted extracted feature biometric information) –see column 2, lines 30-50 and Fig.2, blocks from 54 to 92. Therefore the combination of teachings of Priddy and those of Strait renders the claims 17, 25, 31-33 obvious.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-16, 18-24 and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky (U.S. Patent No. 6,092,192) in view of Strait (U.S. Patent No. 6,038,315).

10. Referring to the instant claims, Kanevsky discloses a method for repetitive enrollment in a biometric recognition system (see title and abstract).

Referring to claims 1, 9, 14 and 18, Kanevsky teaches the method of extracting, processing and recognizing the biometric information of the user (see abstract and Fig 2). The limitation “measuring means for measuring biometric information” is met by a spoken utterance (see column 4, lines 60-65 and Fig 3), which receives the biometric (voice) sample. The limitation “converting means for carrying out a predetermined conversion process” is met by encryption device (see Fig 3).



"Extracting feature information from the converted biometric information" is met by an extractor for extracting a biometric attribute from a user (see column 3, line 40).

Kanevsky teaches comparing previously stored sample with the contemporaneously provided sample (see column 4, line 15) within the biometric verification system (see column 6, line 5). The limitation "biometric information of individuals which was previously obtained and registered in advance" is met by storing biometric attribute in a memory device of a server (see column 3, line 40). Kanevsky, however, does not explicitly teach verifying the extracted feature converted biometric information by comparing it against the extracted feature converted biometric information previously obtained. Referring to the instant claims, Strait discloses a system for normalizing biometric variations to authenticate users from a public database (see abstract). Strait teaches recording (i.e. extracting) the original biometric information and convolving (i.e. converting) the biometric measurements (i.e. extracted feature) – see column 53, lines 50-55. Strait teaches verifying the converted biometric information by comparing the error correcting codewords produced from the convolved biometric measurements (i.e. converted extracted feature biometric information) –see column 2, lines 30-50 and Fig.2, blocks from 54 to 92. The limitation "comparison signal for use in authenticating" is met by comparing codewords and outputting match or no match result.

Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to verifying the extracted feature converted biometric information of Kanevsky by comparing it against the extracted feature converted biometric information previously obtained as taught in Strait. One of ordinary skill in the art would

have been motivated to verify the extracted feature converted biometric information by comparing it against the extracted feature converted biometric information previously obtained as taught in Strait for securing a cryptographic system based on biometric measurements (see Strait, column 2, lines 60-65).

11. Referring to claims 2, 3, 10 and 11, the limitation "personal information related to the individual as the parameters" are met by password and decryption key (see column 8, line 40).

12. Referring to claims 4, 7, 8 and 12, the limitations recited in these claims are met by Fig 1, which shows a network with the client computers where the extraction and encryption takes place and the server where verification takes place. The limitation "enciphering key" is met by the encryption keys (see column 7, line 55-65).

13. Referring to claims 5, 6, 13 -16, 19 - 24, 26 - 30, Kanevsky teaches the use of a server memory device(see abstract), which constitutes "recording medium", recited in the instant claims.

14. Claims 17, 25 and 31-33 are rejected under 35 U.S.C. 103(a) as being anticipated by Priddy (U.S. Patent No. 5.984.366) in view of Strait (U.S. Patent No. 6.038.315).

15. Referring to the instant claims Priddy discloses a system for creating and authenticating self-verifying articles (see abstract). The limitation "converting means for carrying out a predetermined conversion process " is met by computer, which includes the necessary encodation (conversion) algorithms (see column 5, lines 28 - 29).

Priddy teaches encoding the biometric data by using at list compression algorithms (see

column 7, lines 33 -35). Priddy, however, does not explicitly teach verifying the extracted feature converted biometric information by comparing it against the extracted feature converted biometric information previously obtained. Referring to the instant claims, Strait discloses a system for normalizing biometric variations to authenticate users from a public database (see abstract). Strait teaches recording (i.e. extracting) the original biometric information and convolving (i.e. converting) the biometric measurements (i.e. extracted feature) – see column 53, lines 50-55. Strait teaches verifying the converted biometric information by comparing the error correcting codewords produced from the convolved biometric measurements (i.e. converted extracted feature biometric information) –see column 2, lines 30-50 and Fig.2, blocks from 54 to 92.

Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to verifying the extracted feature converted biometric information of Priddy by comparing it against the extracted feature converted biometric information previously obtained as taught in Strait. One of ordinary skill in the art would have been motivated to verify the extracted feature converted biometric information by comparing it against the extracted feature converted biometric information previously obtained as taught in Strait for securing a cryptographic system based on biometric measurements (see Strait, column 2, lines 60-65).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Grigory Gurshman whose telephone number is (571)272-3803. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571)272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

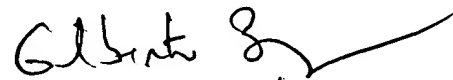
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GG



Grigory Gurshman  
Examiner  
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